

Claim 30 appears to be rejected under 35 U.S.C. § 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)) in view of Umemoto et al. 5,636,323.

Claims 2, 3, 4-7, 10, 11 and 16-18 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Agrawal et al. 4,268,727 (Agrawal).

Claims 8-17, 28 and 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umemoto considered with the publication to Kuo et al. "Active Control Systems" pp 35-36 (Kuo).

Claims 1-17, 40, 41 and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanno, JA 0170298 (Tanno) considered with Davidson 4,025,724 (Davidson) and Kuo.

Claims 18, 42 and 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanno, Davidson, Kuo combination further considered with either of Agrawal, Umemoto or alternatively either of Agrawal or Umemoto considered with Davidson.

With respect to claims 19 and 30, if they are not rejected as set forth above, applicant would appreciate clarification to that effect.

Applicant respectfully requests reconsideration of the above rejections for the reasons set forth in applicant's previous response and Applicant's declaration of October 3, 2001 which are incorporated herein by reference, in further view Applicant's declaration filed herewith and explanations as found herein.

DIFFERING FIELDS OF ART

Applicant first notes that the present invention pertains to entirely different fields of art than those of the cited references, a field of art which utilizes specific terms of art which are found in the specification and claims and which give meaning to the scope of the claims. It is believed that a person of ordinary skill, at the time of the invention, would not look to the fields of the cited prior art to achieve the claimed invention, nor would the person of ordinary skill interpret the claim language, and in

particular the terms of art and terms having specialized meaning as being met by elements of the cited art. These differences are discussed in more detail below.

The examiner has not provided any support or reasoning which would cause the person of ordinary skill in the industry to which the present invention pertains (as set forth for example in the Field of the Invention "... audibly communicating with remotely located actors and reporters in radio and television systems") to look to the presently cited prior art which pertains to different fields of art (for example point to point communications such as the telephone system of Agrawal and the mobile telephone system of Umemoto), to achieve the claimed invention.

The claimed invention provides a mix minus signal as specifically claimed in each claim. Mix minus signal is a term having particular meaning in the field of art to which the invention pertains and which is specified in the disclosure. The person of ordinary skill in the art would know "mix minus signal" to be the approximation of the program signal without the talent signal where program signal would be known to the person of ordinary skill to pertain to a mixture of electronic signals including the talent signal which is recorded or broadcast productions of television and radio like programs. See Cooper Declaration paragraph 14. In the Umemoto and Agrawal inventions the purpose is to reduce unwanted echoes in point to point communications between two people. There is no need to remove a talent signal or other desired signal from a broadcast or recorded program signal for such use. The purpose and intent of the two arts are inconsistent and applicant finds no suggestion in the references at hand to apply them to the field of the present invention.

Applicant notes the claims have been allowed over much more pertinent prior art, Kirby et al, GB 2269968 which is used in the same field of art and is intended to be used in the same application as applicant's invention (but achieves a different result in a different way with a different structure). In this respect the present references are much less pertinent than Kirby.

EXAMINER'S QUESTIONS

With respect to the examiner's questions of section 12 of the office action starting at the bottom of page 13, applicant makes the following responses.

The examiner questions applicant's statement as to what claim 1 "could" cover. Applicant misstated the point and actually should have stated that the claim does cover the embodiments. Applicant apologizes for any confusion this misstatement has caused.

In respect to the question as to "the feedback signal of the claims is not the same feedback signal which is addressed by the Umemoto invention" this matter is discussed in more detail below and in the attached declaration.

With regard to applicant's previous response and the comments on page 4, line 14 to page 6 line 11, applicant believes that the claimed elements, and in particular the meaning of the claim term mix minus signal and its relation to program material, when properly interpreted as explained in detail below, distinguish over the prior art,.

Applicant's previous comments on page 6, line 18 to page 7 line 2 are similarly explained in detail below.

Applicant's previous comments relative to correlation and Kuo at page 7 lines 3-19 are maintained and reconsideration is respectfully requested. The claims specifically recite combinations of elements operating in specific cooperation to achieve specific results as explained in more detail below. The mere presence of prior art which describes one element of a claim, such as Kuo's description of one particular example of correlation, does not provide any suggestion to incorporate that element in the invention as claimed. Without a specific suggestion to the person of ordinary skill to look to the reference, and without a specific suggestion within that reference to be utilized with the claimed invention, the reference is improper.

At page 7, line 20 to page 8 line 7 applicant commented that claim 1 calls for "a delayed feedback signal" whereas the examiner has stated that claim 1 claims the feedback signal which is not delayed. Applicant calls the examiner's attention to the amendment of December 11, 2000.

Applicant's prior comments at page 8 line 8 to page 9 line 10 and page 9 lines 11 to 13 are explained more fully herein.

112 REJECTIONS

With respect to the 112 rejections, applicant again points out that the language of Claims 1 and 4-9 and 19 concerning manual and automatic adjustment of delay is not inconsistent. The invention may very well be configured in an embodiment which uses both manual and automatic adjustment. For example the invention may be practiced with automatic adjustment to track changes of delay and/or gain occurring in the feedback signal, as well as manual adjustment to provide a small amount of talent's voice in the mix minus signal (i.e. less than full cancellation) as described at the bottom paragraph of page 13 and the middle paragraph of page 20. This feature of the invention is specifically recited in the middle paragraph of page 12 "[a] further feature of the invention allows for adjusting the level of compensation according to the amount of delay and/or the talent's preferences." Accordingly there is nothing inconsistent with the recitation of human operator adjustment of gain or delay in claim 1 and automatic adjustment of gain and/or delay in the dependent claims. Refer to Cooper declaration paragraphs 16-19

102 AND 103 REJECTIONS

Applicant's claims utilize terms which are terms of art having particular meaning to persons of ordinary skill in the art and are accordingly defined in applicant's specification. Terms of art which would be known to the person of ordinary skill as of the filing date of the application include "director", "program" or "program signal", "program audio" and "interrupted feed back" and its abbreviation "IFB". See Cooper Declaration paragraphs 6-9. Additionally applicant, choosing to be his own lexicographer, has specifically defined other terms in the specification. These terms include: "feedback signal", "talent", "talent signal", "mix minus" and "mix minus signal" and "cancellation signal". See Cooper Declaration paragraphs 10-15. The claims at issue utilize one or more of these terms of art or specially defined terms.

With respect to the rejections over Umemoto, a person of ordinary skill in the art would not apply the cited prior art to the claims as has been done in the rejections of the last office action.

Specifically the claim term "talent signal" would not be considered by a person of ordinary skill to be the signal RS of Umemoto. The "talent signal" as used in the claims is a signal mixed with other electronic signals to make a program signal or feedback signal. See Cooper Declaration paragraphs 12 and 13. The examiner refers to Umemoto's EC as the feedback signal, but RS is not mixed with other signals to provide EC, thus while RS may come from a human voice, RS does not fall within the meaning of, and thus can not be the "talent signal" of the claims. See Cooper Declaration paragraphs 20-22. The examiner does not identify any program signal in Umemoto.

The claim term "feedback signal" would not be considered by a person of ordinary skill to be the acoustic feedback signal EC of Umemoto. The claimed "feedback signal" is an electronic signal similar to the program or IFB signal. See Cooper Declaration paragraphs 10 and 11. Umemoto's EC is an acoustic signal, not an electronic signal. EC is also not a mixture of electronic signals including the talent signal (which the examiner equates to RS) and it is not recorded or broadcast (program signal). See Cooper Declaration paragraph 7. EC is also not an audio signal taken from the program audio and including comments from the director (IFB). See Cooper Declaration paragraph 9. EC is merely the acoustic version of RSS which in turn is merely the volume adjusted (36) and limited (35) version of RS which the examiner equates to the talent signal. See Cooper Declaration paragraphs 20-22.

The claim term "mix minus" would not be considered by a person of ordinary skill to be equivalent to Umemoto's ESS signal. The mix minus signal of the claims is the approximation of the program signal without the talent signal. See Cooper Declaration paragraph 14. Umemoto's ESS signal is a filtered (by 31) version of the RSS signal which in turn is a limited and gain adjusted version of the RS signal. See Cooper Declaration paragraph 23. The examiner has equated the signal RS to the talent signal, thus if RS is considered to be the talent signal, ESS would be a filtered version of the gain adjusted and limited talent signal. Stated another way, ESS would be a version of the talent signal, not the claimed mix minus signal which is an approximation of the program signal without the talent signal.

For each of the claim terms which the examiner has likened to a claim element, i.e. talent signal to RS, feedback signal to EC and mix minus signal to ESS, serious and substantial differences exist between the claim element and the examiner's prior art signal. The person of ordinary skill would know such differences to prevent such correspondence and accordingly the person of ordinary skill would not view Umemoto as anticipating or obviating the rejected claims, either alone or in combination with the other art as cited.

With respect to the rejection over Tanno, considered with Davidson and Kuo, Tanno is a feedback (howling) cancellation device. Applicant finds no suggestion in Tanno that would lead one of ordinary skill in the art to consider Tanno for use in the field of art of the present invention. Tanno does not appear to show or suggest any program signal (a mixture of electronic signals including the talent signal) and thus no mix minus signal (the approximation of the program signal without the talent signal) or feedback signal (program or IFB like signal fed back to the talent). See Cooper Declaration paragraphs 7-14.

The examiner points to the talent as the person speaking into the mic M1 and the feedback signal as the signal entering M2 which was broadcast by S1. The claimed feedback signal is an electronic signal, whereas the signal entering M2 is an acoustic signal. If the feedback signal is considered to be the electronic signal out of M2, it is not delayed as called for in the rejected claims, since the delay pointed to by the examiner takes place with respect to the acoustic signal from S1 to M2.

The examiner points to T2 as a combining circuit, however Tanno describes T2 as an "attenuating circuit". One of ordinary skill in the art would know the attenuating circuit would operate to adjust the level of the signal from M2, not to combine the signal from D1 with the signal from M2. See Cooper Declaration paragraphs 24 and 25.

Because there is no combination of the signal from M1 with the signal from M2, Tanno does not meet the language of any of the rejected claims. The combination of Tanno and the other cited art does not cure or suggest curing this shortcoming.

The examiner states Tanno gives no guidance as to how the delays are adjusted, however Tanno states "[t]he generation of howling is prevented by adjusting the delay lines D1, D2 so as to apply two inputs to the attenuation circuits T2, T1 in opposite phase." See Cooper Declaration paragraph 26. Consequently there is a description of how the delays are adjusted and no suggestion or reason to look elsewhere, such as to Davidson, for delay information. Additionally, Tanno has no need of a variable gain circuit, since it has similar attenuators T1 and T2 which account for the A1 and GS1-M2 variable the examiner points to. Consequently there is no suggestion or need to look elsewhere to gain circuits. Similarly, Davidson has no suggestion to look to Tanno to achieve the invention of the rejected claims.

With respect to Kuo, applicant notes that Kuo was apparently the first edition which was published some time in 1996 whereas the present application receives priority from provisional application 60/013,545 filed 03/14/96. Applicant respectfully requests explanation of the effective date of Kuo if it is available.

With respect to the combination of Tanno, Davidson, and Kuo in further view of Agrawal or Umemoto, or alternatively Agrawal or Umemoto considered with Davidson, these combinations fail for the reasons given above.

In that the claims clearly distinguish over the art of record, applicant requests favorable action and timely issuance of notice of allowance.

Respectfully Submitted,



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I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office, Fax No. (703) 872-9314 on September 9, 2002.



J. Carl Cooper

Applicant : J. Carl Cooper
Appl. No. : 08/824,496
Filed : 03/14/1997
Title : Improved IFB System Apparatus and Method

Grp./A.U. : 2644
Examiner : Minsun Oh Harvey

Docket No. : JCC-396A

September 9, 2002

DECLARATION UNDER 37 C.F.R. § 1.132

1. My name is J. Carl Cooper. I am the applicant and have appointed myself as agent in the above identified application.
2. I am of sound mind, capable of making this Declaration, and personally acquainted with the facts stated in this Declaration which are true and correct.
3. I earned a Bachelor of Science degree in Electrical Engineering from Oklahoma State University in 1972. As part of the curriculum leading to that degree I studied electronic circuitry of the type which is utilized in the present invention and which is utilized in the prior art over which various claims of the present application stand rejected.
4. I was working in the art to which the invention of the present application pertains as of and prior to the filing date of the application, and I am familiar with the level of ordinary skill therein as of that filing date.
5. I have written and prosecuted the present application and the claims therein and I am familiar with the meaning of the claims thereof to the person of ordinary skill in the art, as well as the standards for patentability under 35 U.S.C. §102, §103 and §112.
6. Prior to and as of the filing date of the present application, a person of ordinary skill in the art would know the term "director" as used in the present application to be a term of art referring to a person who directs productions of television and radio like programs as set forth in the Background of the Invention section of the present application.

7. Prior to and as of the filing date of the present application, a person of ordinary skill in the art would know the term "program" or "program signal" as used in the present application to be a term of art referring "to a mixture of electronic signals including the talent signal which is recorded or broadcast" productions of television and radio like programs as set forth at the last three lines of page 6 of the present application. One of ordinary skill in the art would know "program signal" to be an electronic signal as used in the present application.

8. Prior to and as of the filing date of the present application, a person of ordinary skill in the art would know the term "program audio" as used in the present application to be a term of art referring to the audio portion of productions of television and radio like programs as set forth in the Background of the Invention section of the present application.

9. Prior to and as of the filing date of the present application, a person of ordinary skill in the art would know the term "interrupted feed back" and its abbreviation "IFB" as used in the present application to be terms of art referring to an electronic audio signal taken from the program audio and including comments from the director as explained in the Description of Prior Art section of the present application. One of ordinary skill in the art would know "IFB" to be an electronic signal as used in the present application.

10. A person of ordinary skill in the art would know the term "feedback signal" as used in the present application and its claims to be "[t]he program or IFB signal or a signal similar to the program or IFB which is fed back to the talent" as defined starting at the last line of page 3 and continuing through the first 5 lines of page 4 of the present specification. One of ordinary skill in the art would know "feedback signal" to be an electronic signal as used in the present application.

11. A person of ordinary skill in the art would know the term "feedback signal" as used in the present application and its claims to be further described as "the program like or IFB like signal which is fed back to the talent" as stated at lines 7 and 8 of the Description of the Preferred Embodiment on page 6 of the present specification.

12. A person of ordinary skill in the art would know the term "talent" as used in the present application to "refer to the source of any electronic signal which is mixed with other electronic signals into a feedback electronic signal" as described at lines 9-11 (as amended) of the Description of the Preferred Embodiment on page 6 of the present specification.

13. A person of ordinary skill in the art would know the term "talent signal" as used in the present application and claims to "refer to any electronic signal which is mixed with other electronic signals into a program electronic signal and if not the same the feedback signal" as described at lines 11-14 (as amended) of the Description of the Preferred Embodiment on page 6 of the present specification, i.e. the signal to be mixed with the program signal if it is the (same as the) feedback signal, or mixed with the feedback signal if the program signal and the feedback signal are different..

14. A person of ordinary skill in the art would know the terms "mix minus" and "mix minus signal" as used in the present application and its claims to be "the approximation of the program signal without the talent signal" as described at the last line of page 6 and the first two lines of page 7 of the present application. Without refers to removal of the talent signal which may be less than full (i.e. with some residual talent signal) as described for example at the bottom paragraph of page 13 and the middle paragraph of page 20.

15. A person of ordinary skill in the art would know the terms "cancellation signal" as used in the present application and its claims to be "a signal (in delayed or undelayed form) which may be combined with the program signal to provide the mix minus signal" as described at lines 2-4 of page 7 of the present application.

16. The invention described in the present application may be configured in an embodiment which uses both manual and automatic adjustment of the gain and/or delay of the talent signal.

17. The specification teaches the invention may be practiced with automatic adjustment to track changes of delay and/or gain occurring in the feedback signal, as well as manual adjustment to provide a small amount of talent's voice in the mix minus

signal (i.e. less than full cancellation) as described at the bottom paragraph of page 13 and the middle paragraph of page 20.

18. One of ordinary skill in the art would know the feature of using manual adjustment of the level of compensation to provide a small amount talent's voice in the mix minus signal and automatic adjustment of the level of compensation is specifically recited in the middle paragraph of page 12 "[a] further feature of the invention allows for adjusting the level of compensation according to the amount of delay and/or the talent's preferences."

19 One of ordinary skill in the art would know from the teachings in the specification to use both manual and automatic adjustment of the gain and/or delay of the talent signal in practicing embodiments of the invention having different features than that of paragraph 18.

20. I have reviewed the prior art cited by the examiner throughout the prosecution of this application in detail.

21. Umemoto '323 shows signal EC which is an acoustic (i.e. not electronic) signal which is merely an acoustic version of RSS.

22. Umemoto '323 shows signal RSS which is a version of RS which is gain adjusted by 36 and limited by 35. No electronic signals are combined with RS to produce RSS.

23. Umemoto '323 shows signal ESS. Umemoto's ESS signal is a filtered (by 31) version of the RSS signal which in turn is a limited and gain adjusted version of the RS signal.

24. Tanno JA 0170298 shows a feedback (howling) suppression device with microphones M1 and M2, speakers S1 and S2, delays D1 and D2, amplifiers A1 and A2 and attenuation circuits T1 and T2.

25. Tanno's attenuation circuits T1 and T2 operate to attenuate the signals coupled through them from microphones M1 and M2 respectively. One of ordinary skill in the art would know that the attenuation is responsive to the outputs of delays D1 and D2 respectively, and would further know that there is no mixing or combining of the outputs of the delays with the signals from the microphones.

26. One of ordinary skill in the art would know from reading Tanno that Tanno gives guidance as to how the delays D1 and D2 are to be adjusted to practice Tanno's invention. Tanno states "[t]he generation of howling is prevented by adjusting the delay lines D1, D2 so as to apply two inputs to the attenuation circuits T2, T1 in opposite phase."

I hereby declare that all statements made herein of my own knowledge are true, that all information made on information and belief are believed to be true, and that all opinions expressed are true in my professional opinion; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under Section 1001 of Title 18 of the United States Code.



J. Carl Cooper